DATA VALIDATION REPORT

Gold King Mine Follow-Up Monitoring

SAMPLE DELIVERY GROUP: 680-128719-1

Prepared by

MEC^X
12269 East Vassar Drive
Aurora, CO 80014

I. INTRODUCTION

Task Order Title:	Gold King Mine Follow-Up Monitoring
Project No.:	20408.012.001.0285.00
Sample Delivery Group:	680-128719-1
EPA Project Manager:	Steve Merritt
Weston Project Manager:	Mark Blanchard
TDD No.:	0001/1510-02
Matrix:	Soil/Sludge/Water
QC Level:	Stage 2A
No. of Samples:	11
No. of Reanalyses/Dilutions:	0
Laboratory:	TestAmerica - Denver

Table 1. Sample Identification

Location ID	*Lab Sample Name*	*Matrix Type*	*Collection Date*	*Method*
BH_WD_081916	680-128719-2	Soil	8/9/16 11:20 AM	6020A, 7471A
CC03D_081016_0958	680-128719-5	Water	8/10/16 9:58 AM	200.7, 200.8, 245.1, 2540 D
CC18_081016_1023	680-128719-4	Water	8/10/16 10:23 AM	200.7, 200.8, 245.1, 2540 D
GST_SLUDGE_080916	680-128719-3	Sludge	8/9/16 1:30 PM	6020A, 6020A TCLP, 7470A, 7471A
GST_SLUDGE_DUP_080916	680-128719-11	Sludge	8/9/16 1:30 PM	6020A, 6020A TCLP, 7470A, 7471A
GSTC_081016_1105	680-128719-9	Water	8/10/16 11:05 AM	200.7, 200.8, 245.1, 2540 D
GSTI_081016_1013	680-128719-6	Water	8/10/16 10:13 AM	200.7, 200.8, 245.1, 2540 D
GSTI_DUP_081016_1013	680-128719-7	Water	8/10/16 10:13 AM	200.7, 200.8, 245.1, 2540 D
GSTO_081016_1118	680-128719-10	Water	8/10/16 11:18 AM	200.7, 200.8, 245.1, 2540 D
GSTPO_081016_1056	680-128719-8	Water	8/10/16 10:56 AM	200.7, 200.8, 245.1, 2540 D
OXY_WD_080916	680-128719-1	Soil	8/9/16 11:00 AM	6020A, 7471A

II. Sample Management

Anomalies regarding sample management are noted below. The samples were received within the temperature limits of 4°C ±2°C. The samples were received intact, on ice, and properly preserved. The chains-of-custody (COCs) were appropriately signed and dated by field and laboratory personnel. The presence or absence of custody seals on the cooler was not specifically noted.

The following issues were noted:

- Corrections made to the original COC were made by overwriting the original entry. The corrections were not initialed or dated.

Data Qualifier Reference Table

Qualifier	Organics	Inorganics
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit. The associated value is the quantitation limit or the estimated detection limit for dioxins or PCB congeners.	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit. The associated value is the sample detection limit or the quantitation limit for perchlorate only.
UB	The analyte was detected in the sample and in either the associated laboratory blank or field blank. If detected below the reporting limit (RL) the analyte result was reported as non-detected at the RL due to blank contamination. If detected above the RL, the analyte result was reported as non-detected at the reported result due to blank contamination.	The analyte was detected in the sample and in either the associated laboratory blank or field blank. If detected below the reporting limit (RL) the analyte result was reported as non-detected at the RL due to blank contamination. If detected above the RL, the analyte result was reported as non-detected at the reported result due to blank contamination.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
J+	Not applicable	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample, and may have a potential positive bias.
J-	Not applicable	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample, and may have a potential negative bias.

Qualifier	Organics	Inorganics
UJ	The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.	The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
UJB	The analyte was detected in the sample and in either the associated laboratory blank or field blank; the analyte result was reported as non-detected at either the RL or the reported result. The reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.	The analyte was detected in the sample and in either the associated laboratory blank or field blank; the analyte result was reported as non-detected at either the RL or the reported result. The reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."	Not applicable.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.	Not applicable.
R	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.

Qualification Code Reference Table

Qualifier	Organics	Inorganics
H	Holding times were exceeded.	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.	The sequence or number of standards used for the calibration was incorrect
C	Calibration %RSD or %D was noncompliant.	Correlation coefficient is <0.995 or calibration was noncompliant.
R	Calibration RRF was <0.05.	%R for calibration is not within control limits.
B	Presumed contamination as indicated by the preparation (method) blank results.	Presumed contamination as indicated by the preparation (method) or calibration blank results.
L	Laboratory Blank Spike/Blank Spike Duplicate %R was not within control limits.	Laboratory Control Sample %R was not within control limits.
L1	LCS/LCSD RPD was outside control limits.	LCS/LCSD RPD was outside control limits.
Q	MS/MSD recovery was poor.	MS recovery was poor.
Q1	MS/MSD RPD was outside control limits.	MS/MSD RPD was outside control limits.
E	Not applicable.	Duplicates showed poor agreement.
I	Internal standard performance was unsatisfactory.	ICP ICS results were unsatisfactory.
A	Not applicable.	ICP Serial Dilution %D were not within control limits.
M	Tuning (BFB or DFTPP) was noncompliant.	ICPMS tune was not compliant.
T	Presumed contamination as indicated by the trip blank results.	Not applicable.
+	False positive – reported compound was not present.	Not applicable.
-	False negative – compound was present but not reported.	Not applicable.
F	Presumed contamination as indicated by the FB or ER results.	Presumed contamination as indicated by the FB or ER results.
F1	Field duplicate results were outside the control limit.	Field duplicate results were outside the control limit.
$	Reported result or other information was incorrect.	Reported result or other information was incorrect.

Qualifier	Organics	Inorganics
?	TIC identity or reported retention time has been changed.	Not applicable.
D	The analysis with this flag should not be used because another more technically sound analysis is available.	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.	Post Digestion Spike recovery was not within control limits.
*II, *III	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.

III. Method Analyses

A. Contract Laboratory Program Statement of Work for Inorganic Superfund Methods, 200.7, 200.8, 245.1, 6020A, 7470A, 7471A—Metals and Mercury

Reviewed By: M. Hilchey
Date Reviewed: August 31, 2016

The samples listed in Table 1 for these analyses were validated based on the guidelines outlined in the *Quality Assurance Project Plan for U.S. EPA Region 8 CERCLA Site Assessment, Sampling and Analysis Plan/Quality Assurance Project Plan for Gold King Mine Release, Silverton, San Juan County, Colorado* (2015), *United States Environmental Protection Agency Contract Laboratory Program Statement of Work for Inorganic Superfund Methods, Program Statement of Work for Inorganic Superfund Methods, EPA Methods 200.7, 200.8, 245.1*, *6020A, 7470A and 7471A,* and the *National Functional Guidelines for Inorganic Superfund Data Review* (2010).

- Holding Times: The analytical holding times, 28 days for mercury, and six months for the remaining metals, were met.

- Analytical Method Blanks: No target analytes were reported in the method blanks with concentrations sufficient to qualify site sample results except as noted in the table below. All associated detected sample results that were less than the reporting limit (RL) were qualified as nondetected (UB). All associated detected sample results that were greater than RL and <5x the blank concentration were qualified as estimated with high bias (J+).

analyte	MB concentration	Affected samples
total selenium	1.22µg/L	GSTI_081016_1013, GSTI_DUP_081016_1013, GSTPO_081016_1056, GSTC_081016_1105,
dissolved selenium	1.22µg/L	GSTI_081016_1013, GSTI_DUP_081016_1013, GSTPO_081016_1056

- Laboratory Control Samples (LCS): The recoveries were within the laboratory control limits of 75-125% for method 6020A; 80-120% for methods 6020A (gold only), 7470A and 7471A; and 85-115% for methods 200.7, 200.8 and 245.1.

- Laboratory Duplicates: Laboratory duplicate analyses were not performed on a sample from this SDG.

- Matrix Spike/Matrix Spike Duplicate (MS/MSD): MS/MSD analyses were performed on the samples below from this SDG. For the remaining analyses, MS/MSD analyses were not performed on a sample from this SDG and were not assessed.

Parent Sample	Analysis
GSTO_081016_1118	200.7, 200.8, 245.1
CC18_081016_1023	245.1
GST_SLUDGE_081016	6020A (gold only)
OXY_WD_080916	6020A, 7471A

Results were not assessed when the native concentration was more than 4× the spike amount. The recoveries were within the laboratory control limits of 75-125% for methods 200.7 and 6020A, 70-130% for methods 200.8 and 245.1, and 80-120% for method 7471A except as noted in the table below. All associated detected sample results were qualified as estimated (J+). The RPDs were ≤20% for all target analytes except antimony (66%). Affected results for antimony were qualified as estimated (J).

Analyte	MS/MSD %R	Affected samples
cadmium	267%/355%	OXY_WD_080916, BH_WD_081916
barium	160%/161%	
molybdenum	131%/126%	
vanadium	189%/146%	
antimony	359%	
mercury	194%/165%	

- Post Digestion Spike (PDS): PDS analyses were not performed.

- Serial Dilution: Serial dilution analyses were not performed.

- Field QC Samples: MEC^X evaluated field quality control (QC) samples, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. MEC^X used the remaining detects to evaluate the associated site samples. Findings associated with field QC samples are summarized below:

    - Field Blanks and Equipment Rinsates: Field blank or equipment blank samples were not identified for this SDG.

    - Field Duplicates: Samples GSTI_081016_1013 and GSTI_DUP_081016_1013, and samples GSTO_SLUDGE_080916 and GSTO_SLUDGE_DUP_080916 were identified as field duplicate pairs for this SDG. All RPDs met the reasonable control limits of ≤30% for aqueous samples and ≤50% for solid samples, and less than ±

the reporting limit (RL) for results 5X RL with the following exceptions. RPDs for lead (58%), TCLP barium (difference >RL), and TCLP thallium (difference >RL) failed to meet acceptance limits for the solid samples. Associated results for samples GSTO_SLUDGE_080916 and GSTO_SLUDGE_DUP_080916 were qualified as estimated (UJ for nondetects and J for detects).

B. VARIOUS EPA METHODS—General Chemistry

Reviewed By: M. Hilchey
Date Reviewed: August 31, 2016

The samples listed in Table 1 for these analyses were validated based on the guidelines outlined in the *Quality Assurance Project Plan for U.S. EPA Region 8 CERCLA Site Assessment, Sampling and Analysis Plan/Quality Assurance Project Plan for Gold King Mine Release, Silverton, San Juan County, Colorado* (2015), *United States Environmental Protection Agency Contract Laboratory Program Statement of Work for Inorganic Superfund Methods, Standard Methods for the Examination of Water and Wastewater 2540D,* and the *National Functional Guidelines for Superfund Inorganic Data Review* (2010).

- Holding Times: Total suspended solids (TSS) was analyzed within the required holding time of 7 days.
- Analytical Method Blanks: There were no detects in the method blank.
- Laboratory Control Samples LCS/LCSD recoveries were within the laboratory control limits of 80-120%, and RPD was within the QAPP control limit of ≤20%.
- Laboratory Duplicates Laboratory duplicate analysis was performed on sample CC03D_081016_0958. The RPD was within the QAPP control limit of ≤20%.
- Matrix Spike/Matrix Spike Duplicate (MS/MSD): MS/MSD analyses were not performed.
- Field QC Samples: MEC^X evaluated field quality control (QC) samples, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. MEC^X used the remaining detects to evaluate the associated site samples. Findings associated with field QC samples are summarized below:
    - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.

- Field Duplicates: Samples GSTI_081016_1013 and GSTI_DUP_081016_1013 were identified as a field duplicate pair for this SDG. The RPD met the reasonable control limit of ≤30% for aqueous samples.

Validated Sample Result Forms: 680-128719-1

Analysis Method 200.7 Metals (ICP)

Sample Name GSTO_081016_1118 **Matrix Type:** Water

Lab Sample Name: 680-128719-10 **Sample Date:** 8/10/2016 11:18:00 AM

Analyte	Total/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum	T	7429-90-5	840	200	24	ug/L			
Aluminum, Dissolved	D	7429-90-5	580	200	24	ug/L			
Calcium	T	7440-70-2	530000	500	25	ug/L			
Calcium, Dissolved	D	7440-70-2	540000	500	25	ug/L			
Iron	T	7439-89-6	870	50	17	ug/L			
Iron, Dissolved	D	7439-89-6	17	50	17	ug/L	J	J	
Magnesium	T	7439-95-4	18000	500	33	ug/L			
Magnesium, Dissolved	D	7439-95-4	18000	500	33	ug/L			
Potassium	T	7440-09-7	2700	1000	17	ug/L			
Potassium, Dissolved	D	7440-09-7	2700	1000	17	ug/L			
Sodium	T	7440-23-5	4900	1000	480	ug/L			
Sodium, Dissolved	D	7440-23-5	4800	1000	480	ug/L			

Sample Name CC18_081016_1023 **Matrix Type:** Water

Lab Sample Name: 680-128719-4 **Sample Date:** 8/10/2016 10:23:00 AM

Analyte	Total/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum	T	7429-90-5	3300	200	24	ug/L			
Aluminum, Dissolved	D	7429-90-5	3100	200	24	ug/L			
Calcium	T	7440-70-2	160000	500	25	ug/L			
Calcium, Dissolved	D	7440-70-2	160000	500	25	ug/L			
Iron	T	7439-89-6	18000	50	17	ug/L			
Iron, Dissolved	D	7439-89-6	18000	50	17	ug/L			
Magnesium	T	7439-95-4	11000	500	33	ug/L			
Magnesium, Dissolved	D	7439-95-4	11000	500	33	ug/L			
Potassium	T	7440-09-7	920	1000	17	ug/L	J	J	
Potassium, Dissolved	D	7440-09-7	920	1000	17	ug/L	J	J	
Sodium	T	7440-23-5	3000	1000	480	ug/L			
Sodium, Dissolved	D	7440-23-5	2900	1000	480	ug/L			

Analysis Method 200.7 Metals (ICP)

Sample Name CC03D_081016_0958 **Matrix Type:** Water

Lab Sample Name: 680-128719-5 **Sample Date:** 8/10/2016 9:58:00 AM

Analyte	Total/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum	T	7429-90-5	3800	200	24	ug/L			
Aluminum, Dissolved	D	7429-90-5	1400	200	24	ug/L			
Calcium	T	7440-70-2	440000	5000	250	ug/L			
Calcium, Dissolved	D	7440-70-2	440000	5000	250	ug/L			
Iron	T	7439-89-6	86000	50	17	ug/L			
Iron, Dissolved	D	7439-89-6	84000	50	17	ug/L			
Magnesium	T	7439-95-4	25000	5000	330	ug/L			
Magnesium, Dissolved	D	7439-95-4	26000	5000	330	ug/L			
Potassium	T	7440-09-7	2100	1000	17	ug/L			
Potassium, Dissolved	D	7440-09-7	2100	1000	17	ug/L			
Sodium	T	7440-23-5	6500	1000	480	ug/L			
Sodium, Dissolved	D	7440-23-5	6600	1000	480	ug/L			

Sample Name GSTI_081016_1013 **Matrix Type:** Water

Lab Sample Name: 680-128719-6 **Sample Date:** 8/10/2016 10:13:00 AM

Analyte	Total/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum	T	7429-90-5	37000	200	24	ug/L			
Aluminum, Dissolved	D	7429-90-5	33000	200	24	ug/L			
Calcium	T	7440-70-2	330000	500	25	ug/L			
Calcium, Dissolved	D	7440-70-2	340000	500	25	ug/L			
Iron	T	7439-89-6	190000	50	17	ug/L			
Iron, Dissolved	D	7439-89-6	84000	50	17	ug/L			
Magnesium	T	7439-95-4	23000	500	33	ug/L			
Magnesium, Dissolved	D	7439-95-4	23000	500	33	ug/L			
Potassium	T	7440-09-7	2900	1000	17	ug/L			
Potassium, Dissolved	D	7440-09-7	2600	1000	17	ug/L			
Sodium	T	7440-23-5	1600	1000	480	ug/L			
Sodium, Dissolved	D	7440-23-5	1600	1000	480	ug/L			

Sample Name GSTI_DUP_081016_1013 **Matrix Type:** Water

Lab Sample Name: 680-128719-7 **Sample Date:** 8/10/2016 10:13:00 AM

Analyte	Total/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum	T	7429-90-5	36000	200	24	ug/L			

Analysis Method 200.7 Metals (ICP)

Aluminum, Dissolved	D	7429-90-5	33000	200	24	ug/L				
Calcium	T	7440-70-2	340000	500	25	ug/L				
Calcium, Dissolved	D	7440-70-2	340000	500	25	ug/L				
Iron	T	7439-89-6	190000	50	17	ug/L				
Iron, Dissolved	D	7439-89-6	84000	50	17	ug/L				
Magnesium	T	7439-95-4	23000	500	33	ug/L				
Magnesium, Dissolved	D	7439-95-4	23000	500	33	ug/L				
Potassium	T	7440-09-7	3100	1000	17	ug/L				
Potassium, Dissolved	D	7440-09-7	2600	1000	17	ug/L				
Sodium	T	7440-23-5	1600	1000	480	ug/L				
Sodium, Dissolved	D	7440-23-5	1600	1000	480	ug/L				

Sample Name GSTPO_081016_1056 **Matrix Type:** Water

Lab Sample Name: 680-128719-8 **Sample Date:** 8/10/2016 10:56:00 AM

Analyte	Total/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum	T	7429-90-5	35000	200	24	ug/L			
Aluminum, Dissolved	D	7429-90-5	35000	200	24	ug/L			
Calcium	T	7440-70-2	340000	500	25	ug/L			
Calcium, Dissolved	D	7440-70-2	350000	500	25	ug/L			
Iron	T	7439-89-6	120000	50	17	ug/L			
Iron, Dissolved	D	7439-89-6	98000	50	17	ug/L			
Magnesium	T	7439-95-4	23000	500	33	ug/L			
Magnesium, Dissolved	D	7439-95-4	24000	500	33	ug/L			
Potassium	T	7440-09-7	2800	1000	17	ug/L			
Potassium, Dissolved	D	7440-09-7	2800	1000	17	ug/L			
Sodium	T	7440-23-5	1600	1000	480	ug/L			
Sodium, Dissolved	D	7440-23-5	1800	1000	480	ug/L			

Sample Name GSTC_081016_1105 **Matrix Type:** Water

Lab Sample Name: 680-128719-9 **Sample Date:** 8/10/2016 11:05:00 AM

Analyte	Total/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum	T	7429-90-5	43000	200	24	ug/L			
Aluminum, Dissolved	D	7429-90-5	2800	200	24	ug/L			
Calcium	T	7440-70-2	610000	5000	250	ug/L			
Calcium, Dissolved	D	7440-70-2	540000	500	25	ug/L			
Iron	T	7439-89-6	150000	50	17	ug/L			
Iron, Dissolved	D	7439-89-6	4700	50	17	ug/L			
Magnesium	T	7439-95-4	28000	5000	330	ug/L			

Analysis Method 200.7 Metals (ICP)

Magnesium, Dissolved	D	7439-95-4	18000	500	33	ug/L		
Potassium	T	7440-09-7	2700	1000	17	ug/L		
Potassium, Dissolved	D	7440-09-7	2700	1000	17	ug/L		
Sodium	T	7440-23-5	880	1000	480	ug/L	J	J
Sodium, Dissolved	D	7440-23-5	4800	1000	480	ug/L		

Analysis Method 200.8 Metals (ICP/MS)

Sample Name GSTO_081016_1118 **Matrix Type:** Water

Lab Sample Name: 680-128719-10 **Sample Date:** 8/10/2016 11:18:00 AM

Analyte	Total/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Antimony	T	7440-36-0	0.4	1	0.4	ug/L	J	J	
Antimony, Dissolved	D	7440-36-0	0.55	1	0.4	ug/L	J	J	
Arsenic	T	7440-38-2	0.37	1	0.37	ug/L	U	U	
Arsenic, Dissolved	D	7440-38-2	0.37	1	0.37	ug/L	U	U	
Barium	T	7440-39-3	7.3	2	0.14	ug/L			
Barium, Dissolved	D	7440-39-3	7.4	2	0.14	ug/L			
Beryllium	T	7440-41-7	0.15	0.4	0.15	ug/L	U	U	
Beryllium, Dissolved	D	7440-41-7	0.15	0.4	0.15	ug/L	U	U	
Cadmium	T	7440-43-9	3.3	0.5	0.043	ug/L			
Cadmium, Dissolved	D	7440-43-9	2.7	0.5	0.043	ug/L			
Chromium	T	7440-47-3	1	2	1	ug/L	U	U	
Chromium, Dissolved	D	7440-47-3	1	2	1	ug/L	U	U	
Cobalt	T	7440-48-4	4.3	0.4	0.12	ug/L			
Cobalt, Dissolved	D	7440-48-4	3.8	0.4	0.12	ug/L			
Copper	T	7440-50-8	50	5	0.5	ug/L			
Copper, Dissolved	D	7440-50-8	1.7	5	0.5	ug/L	J	J	
Lead	T	7439-92-1	0.43	0.3	0.06	ug/L			
Lead, Dissolved	D	7439-92-1	0.078	0.3	0.06	ug/L	J	J	
Manganese	T	7439-96-5	7900	25	12	ug/L			
Manganese, Dissolved	D	7439-96-5	7900	25	12	ug/L			
Molybdenum	T	7439-98-7	2.5	1	0.45	ug/L			
Molybdenum, Dissolved	D	7439-98-7	2.4	1	0.45	ug/L			
Nickel	T	7440-02-0	6.4	5	0.4	ug/L			
Nickel, Dissolved	D	7440-02-0	6.4	5	0.4	ug/L			
Selenium	T	7782-49-2	0.58	2	0.58	ug/L	U	U	
Selenium, Dissolved	D	7782-49-2	0.58	2	0.58	ug/L	U	U	
Silver	T	7440-22-4	0.1	1	0.1	ug/L	U	U	
Silver, Dissolved	D	7440-22-4	0.1	1	0.1	ug/L	U	U	
Thallium	T	7440-28-0	0.27	0.2	0.1	ug/L			

Analysis Method 200.8 Metals (ICP/MS)

Thallium, Dissolved	D	7440-28-0	0.27	0.2	0.1	ug/L		
Vanadium	T	7440-62-2	0.51	1	0.3	ug/L	J	J
Vanadium, Dissolved	D	7440-62-2	0.33	1	0.3	ug/L	J	J
Zinc	T	7440-66-6	240	20	2.8	ug/L		
Zinc, Dissolved	D	7440-66-6	61	20	2.8	ug/L		

Sample Name CC18_081016_1023 **Matrix Type:** Water

Lab Sample Name: 680-128719-4 **Sample Date:** 8/10/2016 10:23:00 AM

Analyte	Total/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Antimony	T	7440-36-0	0.4	1	0.4	ug/L	U	U	
Antimony, Dissolved	D	7440-36-0	0.4	1	0.4	ug/L	U	U	
Arsenic	T	7440-38-2	0.37	1	0.37	ug/L	U	U	
Arsenic, Dissolved	D	7440-38-2	0.37	1	0.37	ug/L	U	U	
Barium	T	7440-39-3	20	2	0.14	ug/L			
Barium, Dissolved	D	7440-39-3	21	2	0.14	ug/L			
Beryllium	T	7440-41-7	1.8	0.4	0.15	ug/L			
Beryllium, Dissolved	D	7440-41-7	1.9	0.4	0.15	ug/L			
Cadmium	T	7440-43-9	12	0.5	0.043	ug/L			
Cadmium, Dissolved	D	7440-43-9	13	0.5	0.043	ug/L			
Chromium	T	7440-47-3	1	2	1	ug/L	U	U	
Chromium, Dissolved	D	7440-47-3	1	2	1	ug/L	U	U	
Cobalt	T	7440-48-4	31	0.4	0.12	ug/L			
Cobalt, Dissolved	D	7440-48-4	31	0.4	0.12	ug/L			
Copper	T	7440-50-8	100	5	0.5	ug/L			
Copper, Dissolved	D	7440-50-8	100	5	0.5	ug/L			
Lead	T	7439-92-1	19	0.3	0.06	ug/L			
Lead, Dissolved	D	7439-92-1	18	0.3	0.06	ug/L			
Manganese	T	7439-96-5	11000	25	12	ug/L			
Manganese, Dissolved	D	7439-96-5	11000	25	12	ug/L			
Molybdenum	T	7439-98-7	0.45	1	0.45	ug/L	U	U	
Molybdenum, Dissolved	D	7439-98-7	0.45	1	0.45	ug/L	U	U	
Nickel	T	7440-02-0	19	5	0.4	ug/L			
Nickel, Dissolved	D	7440-02-0	20	5	0.4	ug/L			
Selenium	T	7782-49-2	0.58	2	0.58	ug/L	U ^	U	
Selenium, Dissolved	D	7782-49-2	0.58	2	0.58	ug/L	U ^	U	
Silver	T	7440-22-4	0.1	1	0.1	ug/L	U	U	
Silver, Dissolved	D	7440-22-4	0.1	1	0.1	ug/L	U	U	
Thallium	T	7440-28-0	0.1	0.2	0.1	ug/L	U	U	
Thallium, Dissolved	D	7440-28-0	0.1	0.2	0.1	ug/L	U	U	
Vanadium	T	7440-62-2	0.43	1	0.3	ug/L	J	J	

Analysis Method 200.8 Metals (ICP/MS)

Vanadium, Dissolved	D	7440-62-2	0.3	1	0.3	ug/L	U	U
Zinc	T	7440-66-6	5200	200	28	ug/L		
Zinc, Dissolved	D	7440-66-6	5300	200	28	ug/L		

Sample Name CC03D_081016_0958 **Matrix Type:** Water

Lab Sample Name: 680-128719-5 **Sample Date:** 8/10/2016 9:58:00 AM

Analyte	Total/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Antimony	T	7440-36-0	0.4	1	0.4	ug/L	U	U	
Antimony, Dissolved	D	7440-36-0	0.4	1	0.4	ug/L	U	U	
Arsenic	T	7440-38-2	1.8	1	0.37	ug/L			
Arsenic, Dissolved	D	7440-38-2	1.2	1	0.37	ug/L			
Barium	T	7440-39-3	13	2	0.14	ug/L			
Barium, Dissolved	D	7440-39-3	13	2	0.14	ug/L			
Beryllium	T	7440-41-7	6.5	0.4	0.15	ug/L			
Beryllium, Dissolved	D	7440-41-7	5	0.4	0.15	ug/L			
Cadmium	T	7440-43-9	25	0.5	0.043	ug/L			
Cadmium, Dissolved	D	7440-43-9	24	0.5	0.043	ug/L			
Chromium	T	7440-47-3	1	2	1	ug/L	U	U	
Chromium, Dissolved	D	7440-47-3	1	2	1	ug/L	U	U	
Cobalt	T	7440-48-4	100	0.4	0.12	ug/L			
Cobalt, Dissolved	D	7440-48-4	100	0.4	0.12	ug/L			
Copper	T	7440-50-8	7.7	5	0.5	ug/L			
Copper, Dissolved	D	7440-50-8	3.6	5	0.5	ug/L	J	J	
Lead	T	7439-92-1	69	0.3	0.06	ug/L			
Lead, Dissolved	D	7439-92-1	7.2	0.3	0.06	ug/L			
Manganese	T	7439-96-5	32000	50	24	ug/L			
Manganese, Dissolved	D	7439-96-5	31000	50	24	ug/L			
Molybdenum	T	7439-98-7	0.47	1	0.45	ug/L	J	J	
Molybdenum, Dissolved	D	7439-98-7	0.47	1	0.45	ug/L	J	J	
Nickel	T	7440-02-0	53	5	0.4	ug/L			
Nickel, Dissolved	D	7440-02-0	52	5	0.4	ug/L			
Selenium	T	7782-49-2	0.58	2	0.58	ug/L	U	U	
Selenium, Dissolved	D	7782-49-2	0.58	2	0.58	ug/L	U	U	
Silver	T	7440-22-4	0.1	1	0.1	ug/L	U	U	
Silver, Dissolved	D	7440-22-4	0.1	1	0.1	ug/L	U	U	
Thallium	T	7440-28-0	0.11	0.2	0.1	ug/L	J	J	
Thallium, Dissolved	D	7440-28-0	0.11	0.2	0.1	ug/L	J	J	
Vanadium	T	7440-62-2	0.8	1	0.3	ug/L	J	J	
Vanadium, Dissolved	D	7440-62-2	0.31	1	0.3	ug/L	J	J	
Zinc	T	7440-66-6	13000	400	56	ug/L			

Analysis Method 200.8 Metals (ICP/MS)

Zinc, Dissolved	D	7440-66-6	13000	400	56	ug/L				

Sample Name GSTI_081016_1013 **Matrix Type:** Water

Lab Sample Name: 680-128719-6 **Sample Date:** 8/10/2016 10:13:00 AM

Analyte	Total/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Antimony	T	7440-36-0	9.9	20	8	ug/L	J	J	
Antimony, Dissolved	D	7440-36-0	0.76	1	0.4	ug/L	J	J	
Arsenic	T	7440-38-2	130	1	0.37	ug/L			
Arsenic, Dissolved	D	7440-38-2	6.5	1	0.37	ug/L			
Barium	T	7440-39-3	21	40	2.8	ug/L	J	J	
Barium, Dissolved	D	7440-39-3	8.6	2	0.14	ug/L			
Beryllium	T	7440-41-7	9.5	0.4	0.15	ug/L			
Beryllium, Dissolved	D	7440-41-7	9.1	0.4	0.15	ug/L			
Cadmium	T	7440-43-9	93	10	0.86	ug/L			
Cadmium, Dissolved	D	7440-43-9	80	0.5	0.043	ug/L			
Chromium	T	7440-47-3	12	2	1	ug/L			
Chromium, Dissolved	D	7440-47-3	3.8	2	1	ug/L			
Cobalt	T	7440-48-4	96	0.4	0.12	ug/L			
Cobalt, Dissolved	D	7440-48-4	97	0.4	0.12	ug/L			
Copper	T	7440-50-8	11000	100	10	ug/L			
Copper, Dissolved	D	7440-50-8	9300	100	10	ug/L			
Lead	T	7439-92-1	100	6	1.2	ug/L			
Lead, Dissolved	D	7439-92-1	33	0.3	0.06	ug/L			
Manganese	T	7439-96-5	26000	50	24	ug/L			
Manganese, Dissolved	D	7439-96-5	26000	50	24	ug/L			
Molybdenum	T	7439-98-7	15	20	9	ug/L	J	J	
Molybdenum, Dissolved	D	7439-98-7	9	20	9	ug/L	U	U	
Nickel	T	7440-02-0	59	5	0.4	ug/L			
Nickel, Dissolved	D	7440-02-0	60	5	0.4	ug/L			
Selenium	T	7782-49-2	3.3	2	0.58	ug/L	B ^	J+	B
Selenium, Dissolved	D	7782-49-2	1.5	2	0.58	ug/L	J B ^	UB	B
Silver	T	7440-22-4	2	20	2	ug/L	U	U	
Silver, Dissolved	D	7440-22-4	0.1	1	0.1	ug/L	U	U	
Thallium	T	7440-28-0	2	4	2	ug/L	U	U	
Thallium, Dissolved	D	7440-28-0	0.36	0.2	0.1	ug/L			
Vanadium	T	7440-62-2	76	1	0.3	ug/L			
Vanadium, Dissolved	D	7440-62-2	2.9	1	0.3	ug/L			
Zinc	T	7440-66-6	25000	400	56	ug/L			
Zinc, Dissolved	D	7440-66-6	25000	400	56	ug/L			

Analysis Method 200.8 Metals (ICP/MS)

Sample Name GSTI_DUP_081016_1013 **Matrix Type:** Water

Lab Sample Name: 680-128719-7 **Sample Date:** 8/10/2016 10:13:00 AM

Analyte	Total/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Antimony	T	7440-36-0	9.8	20	8	ug/L	J	J	
Antimony, Dissolved	D	7440-36-0	0.7	1	0.4	ug/L	J	J	
Arsenic	T	7440-38-2	120	1	0.37	ug/L			
Arsenic, Dissolved	D	7440-38-2	6.4	1	0.37	ug/L			
Barium	T	7440-39-3	19	40	2.8	ug/L	J	J	
Barium, Dissolved	D	7440-39-3	8.8	2	0.14	ug/L			
Beryllium	T	7440-41-7	9.3	0.4	0.15	ug/L			
Beryllium, Dissolved	D	7440-41-7	9	0.4	0.15	ug/L			
Cadmium	T	7440-43-9	94	10	0.86	ug/L			
Cadmium, Dissolved	D	7440-43-9	80	0.5	0.043	ug/L			
Chromium	T	7440-47-3	12	2	1	ug/L			
Chromium, Dissolved	D	7440-47-3	3.8	2	1	ug/L			
Cobalt	T	7440-48-4	94	0.4	0.12	ug/L			
Cobalt, Dissolved	D	7440-48-4	95	0.4	0.12	ug/L			
Copper	T	7440-50-8	10000	100	10	ug/L			
Copper, Dissolved	D	7440-50-8	9100	100	10	ug/L			
Lead	T	7439-92-1	94	6	1.2	ug/L			
Lead, Dissolved	D	7439-92-1	33	0.3	0.06	ug/L			
Manganese	T	7439-96-5	26000	50	24	ug/L			
Manganese, Dissolved	D	7439-96-5	26000	50	24	ug/L			
Molybdenum	T	7439-98-7	15	20	9	ug/L	J	J	
Molybdenum, Dissolved	D	7439-98-7	9	20	9	ug/L	U	U	
Nickel	T	7440-02-0	58	5	0.4	ug/L			
Nickel, Dissolved	D	7440-02-0	58	5	0.4	ug/L			
Selenium	T	7782-49-2	3.3	2	0.58	ug/L	B ^	J+	B
Selenium, Dissolved	D	7782-49-2	1.3	2	0.58	ug/L	J B ^	UB	B
Silver	T	7440-22-4	2	20	2	ug/L	U	U	
Silver, Dissolved	D	7440-22-4	0.1	1	0.1	ug/L	U	U	
Thallium	T	7440-28-0	2	4	2	ug/L	U	U	
Thallium, Dissolved	D	7440-28-0	0.35	0.2	0.1	ug/L			
Vanadium	T	7440-62-2	73	1	0.3	ug/L			
Vanadium, Dissolved	D	7440-62-2	2.9	1	0.3	ug/L			
Zinc	T	7440-66-6	25000	400	56	ug/L			
Zinc, Dissolved	D	7440-66-6	25000	400	56	ug/L			

Analysis Method 200.8 Metals (ICP/MS)

Sample Name GSTPO_081016_1056 **Matrix Type:** Water

Lab Sample Name: 680-128719-8 **Sample Date:** 8/10/2016 10:56:00 AM

Analyte	Total/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Antimony	T	7440-36-0	3.8	1	0.4	ug/L			
Antimony, Dissolved	D	7440-36-0	2	1	0.4	ug/L			
Arsenic	T	7440-38-2	52	1	0.37	ug/L			
Arsenic, Dissolved	D	7440-38-2	24	1	0.37	ug/L			
Barium	T	7440-39-3	13	2	0.14	ug/L			
Barium, Dissolved	D	7440-39-3	10	2	0.14	ug/L			
Beryllium	T	7440-41-7	9	0.4	0.15	ug/L			
Beryllium, Dissolved	D	7440-41-7	9.3	0.4	0.15	ug/L			
Cadmium	T	7440-43-9	77	0.5	0.043	ug/L			
Cadmium, Dissolved	D	7440-43-9	80	0.5	0.043	ug/L			
Chromium	T	7440-47-3	6.4	2	1	ug/L			
Chromium, Dissolved	D	7440-47-3	4.9	2	1	ug/L			
Cobalt	T	7440-48-4	96	0.4	0.12	ug/L			
Cobalt, Dissolved	D	7440-48-4	99	0.4	0.12	ug/L			
Copper	T	7440-50-8	8700	100	10	ug/L			
Copper, Dissolved	D	7440-50-8	8900	100	10	ug/L			
Lead	T	7439-92-1	55	0.3	0.06	ug/L			
Lead, Dissolved	D	7439-92-1	38	0.3	0.06	ug/L			
Manganese	T	7439-96-5	26000	50	24	ug/L			
Manganese, Dissolved	D	7439-96-5	27000	50	24	ug/L			
Molybdenum	T	7439-98-7	9	20	9	ug/L	U	U	
Molybdenum, Dissolved	D	7439-98-7	9	20	9	ug/L	U	U	
Nickel	T	7440-02-0	59	5	0.4	ug/L			
Nickel, Dissolved	D	7440-02-0	60	5	0.4	ug/L			
Selenium	T	7782-49-2	2.1	2	0.58	ug/L	B	J+	B
Selenium, Dissolved	D	7782-49-2	1.6	2	0.58	ug/L	J B	UB	B
Silver	T	7440-22-4	0.16	1	0.1	ug/L	J	J	
Silver, Dissolved	D	7440-22-4	0.1	1	0.1	ug/L	U	U	
Thallium	T	7440-28-0	0.31	0.2	0.1	ug/L			
Thallium, Dissolved	D	7440-28-0	0.34	0.2	0.1	ug/L			
Vanadium	T	7440-62-2	31	1	0.3	ug/L			
Vanadium, Dissolved	D	7440-62-2	14	1	0.3	ug/L			
Zinc	T	7440-66-6	25000	400	56	ug/L			
Zinc, Dissolved	D	7440-66-6	26000	400	56	ug/L			

Analysis Method 200.8 Metals (ICP/MS)

Sample Name GSTC_081016_1105 **Matrix Type:** Water

Lab Sample Name: 680-128719-9 **Sample Date:** 8/10/2016 11:05:00 AM

Analyte	Total/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Antimony	T	7440-36-0	5.3	1	0.4	ug/L			
Antimony, Dissolved	D	7440-36-0	0.83	1	0.4	ug/L	J	J	
Arsenic	T	7440-38-2	79	1	0.37	ug/L			
Arsenic, Dissolved	D	7440-38-2	2	1	0.37	ug/L			
Barium	T	7440-39-3	12	2	0.14	ug/L			
Barium, Dissolved	D	7440-39-3	7.2	2	0.14	ug/L			
Beryllium	T	7440-41-7	11	0.4	0.15	ug/L			
Beryllium, Dissolved	D	7440-41-7	0.36	0.4	0.15	ug/L	J	J	
Cadmium	T	7440-43-9	88	0.5	0.043	ug/L			
Cadmium, Dissolved	D	7440-43-9	4.3	0.5	0.043	ug/L			
Chromium	T	7440-47-3	11	2	1	ug/L			
Chromium, Dissolved	D	7440-47-3	1	2	1	ug/L	U	U	
Cobalt	T	7440-48-4	120	0.4	0.12	ug/L			
Cobalt, Dissolved	D	7440-48-4	5.3	0.4	0.12	ug/L			
Copper	T	7440-50-8	10000	50	5	ug/L			
Copper, Dissolved	D	7440-50-8	310	5	0.5	ug/L			
Lead	T	7439-92-1	67	3	0.6	ug/L			
Lead, Dissolved	D	7439-92-1	2.1	0.3	0.06	ug/L			
Manganese	T	7439-96-5	30000	25	12	ug/L			
Manganese, Dissolved	D	7439-96-5	5200	25	12	ug/L			
Molybdenum	T	7439-98-7	7.3	10	4.5	ug/L	J	J	
Molybdenum, Dissolved	D	7439-98-7	2.7	1	0.45	ug/L			
Nickel	T	7440-02-0	76	5	0.4	ug/L			
Nickel, Dissolved	D	7440-02-0	6.7	5	0.4	ug/L			
Selenium	T	7782-49-2	2.8	2	0.58	ug/L	B	J+	B
Selenium, Dissolved	D	7782-49-2	0.58	2	0.58	ug/L	U	U	
Silver	T	7440-22-4	0.15	1	0.1	ug/L	J	J	
Silver, Dissolved	D	7440-22-4	0.1	1	0.1	ug/L	U	U	
Thallium	T	7440-28-0	1	2	1	ug/L	U	U	
Thallium, Dissolved	D	7440-28-0	0.26	0.2	0.1	ug/L			
Vanadium	T	7440-62-2	58	1	0.3	ug/L			
Vanadium, Dissolved	D	7440-62-2	1.9	1	0.3	ug/L			
Zinc	T	7440-66-6	30000	200	28	ug/L			
Zinc, Dissolved	D	7440-66-6	930	20	2.8	ug/L			

Analysis Method 245.1 Mercury (CVAA)

Sample Name GSTO_081016_1118 **Matrix Type:** Water

Lab Sample Name: 680-128719-10 **Sample Date:** 8/10/2016 11:18:00 AM

Analyte	Total/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Mercury	T	7439-97-6	0.08	0.2	0.08	ug/L	U	U	
Mercury, Dissolved	D	7439-97-6	0.08	0.2	0.08	ug/L	U	U	

Sample Name CC18_081016_1023 **Matrix Type:** Water

Lab Sample Name: 680-128719-4 **Sample Date:** 8/10/2016 10:23:00 AM

Analyte	Total/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Mercury	T	7439-97-6	0.08	0.2	0.08	ug/L	U	U	
Mercury, Dissolved	D	7439-97-6	0.08	0.2	0.08	ug/L	U	U	

Sample Name CC03D_081016_0958 **Matrix Type:** Water

Lab Sample Name: 680-128719-5 **Sample Date:** 8/10/2016 9:58:00 AM

Analyte	Total/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Mercury	T	7439-97-6	0.08	0.2	0.08	ug/L	U	U	
Mercury, Dissolved	D	7439-97-6	0.08	0.2	0.08	ug/L	U	U	

Sample Name GSTI_081016_1013 **Matrix Type:** Water

Lab Sample Name: 680-128719-6 **Sample Date:** 8/10/2016 10:13:00 AM

Analyte	Total/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Mercury	T	7439-97-6	0.08	0.2	0.08	ug/L	U	U	
Mercury, Dissolved	D	7439-97-6	0.08	0.2	0.08	ug/L	U	U	

Sample Name GSTI_DUP_081016_1013 **Matrix Type:** Water

Lab Sample Name: 680-128719-7 **Sample Date:** 8/10/2016 10:13:00 AM

Analyte	Total/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Mercury	T	7439-97-6	0.08	0.2	0.08	ug/L	U	U	
Mercury, Dissolved	D	7439-97-6	0.08	0.2	0.08	ug/L	U	U	

Sample Name GSTPO_081016_1056 **Matrix Type:** Water

Lab Sample Name: 680-128719-8 **Sample Date:** 8/10/2016 10:56:00 AM

Analyte	Total/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Mercury	T	7439-97-6	0.08	0.2	0.08	ug/L	U	U	
Mercury, Dissolved	D	7439-97-6	0.08	0.2	0.08	ug/L	U	U	

Analysis Method 245.1 Mercury (CVAA)

Sample Name GSTC_081016_1105 **Matrix Type:** Water

Lab Sample Name: 680-128719-9 **Sample Date:** 8/10/2016 11:05:00 AM

Analyte	Total/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Mercury	T	7439-97-6	0.08	0.2	0.08	ug/L	U	U	
Mercury, Dissolved	D	7439-97-6	0.08	0.2	0.08	ug/L	U	U	

Analysis Method 2540D Total Suspended Solids

Sample Name GSTO_081016_1118 **Matrix Type:** Water

Lab Sample Name: 680-128719-10 **Sample Date:** 8/10/2016 11:18:00 AM

Analyte	Total/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Total Suspended Solids	T	STL00161	6.8	4	4	mg/L			

Sample Name CC18_081016_1023 **Matrix Type:** Water

Lab Sample Name: 680-128719-4 **Sample Date:** 8/10/2016 10:23:00 AM

Analyte	Total/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Total Suspended Solids	T	STL00161	26	4	4	mg/L			

Sample Name CC03D_081016_0958 **Matrix Type:** Water

Lab Sample Name: 680-128719-5 **Sample Date:** 8/10/2016 9:58:00 AM

Analyte	Total/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Total Suspended Solids	T	STL00161	90	10	10	mg/L			

Sample Name GSTI_081016_1013 **Matrix Type:** Water

Lab Sample Name: 680-128719-6 **Sample Date:** 8/10/2016 10:13:00 AM

Analyte	Total/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Total Suspended Solids	T	STL00161	460	33	33	mg/L			

Sample Name GSTI_DUP_081016_1013 **Matrix Type:** Water

Lab Sample Name: 680-128719-7 **Sample Date:** 8/10/2016 10:13:00 AM

Analyte	Total/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Total Suspended Solids	T	STL00161	430	25	25	mg/L			

Analysis Method 2540D Total Suspended Solids

Sample Name GSTPO_081016_1056 **Matrix Type:** Water

Lab Sample Name: 680-128719-8 **Sample Date:** 8/10/2016 10:56:00 AM

Analyte	Total/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Total Suspended Solids	T	STL00161	250	17	17	mg/L			

Sample Name GSTC_081016_1105 **Matrix Type:** Water

Lab Sample Name: 680-128719-9 **Sample Date:** 8/10/2016 11:05:00 AM

Analyte	Total/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Total Suspended Solids	T	STL00161	830	50	50	mg/L			

Analysis Method 6020A Metals (ICP/MS)

Sample Name OXY_WD_080916 **Matrix Type:** Solid

Lab Sample Name: 680-128719-1 **Sample Date:** 8/9/2016 11:00:00 AM

Analyte	Total/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Antimony	T	7440-36-0	7.3	0.9	0.09	mg/Kg	F1 F2	J+	Q,Q1
Arsenic	T	7440-38-2	8.6	0.27	0.09	mg/Kg			
Barium	T	7440-39-3	27	0.45	0.054	mg/Kg	F1	J+	Q
Beryllium	T	7440-41-7	0.12	0.045	0.013	mg/Kg			
Cadmium	T	7440-43-9	10	0.045	0.013	mg/Kg	F1	J+	Q
Chromium	T	7440-47-3	2.1	0.9	0.099	mg/Kg	B		
Cobalt	T	7440-48-4	0.6	0.045	0.009	mg/Kg			
Copper	T	7440-50-8	130	0.45	0.12	mg/Kg	B F2		
Lead	T	7439-92-1	4200	18	4.5	mg/Kg	F2		
Manganese	T	7439-96-5	670	0.9	0.11	mg/Kg	B F2		
Molybdenum	T	7439-98-7	15	0.9	0.072	mg/Kg	F1	J+	Q
Nickel	T	7440-02-0	0.86	0.9	0.23	mg/Kg	J	J	
Selenium	T	7782-49-2	6.7	0.45	0.09	mg/Kg			
Silver	T	7440-22-4	20	0.09	0.009	mg/Kg	F2		
Thallium	T	7440-28-0	0.45	0.09	0.045	mg/Kg			
Vanadium	T	7440-62-2	15	0.45	0.24	mg/Kg	F1	J+	Q
Zinc	T	7440-66-6	2100	180	90	mg/Kg	F2		

Sample Name GST_SLUDGE_DUP_080916 **Matrix Type:** Solid

Lab Sample Name: 680-128719-11 **Sample Date:** 8/9/2016 1:30:00 PM

Analyte	Total/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Antimony	T	7440-36-0	4.2	8	0.8	mg/Kg	J	J	
Arsenic	T	7440-38-2	150	2.4	0.8	mg/Kg			

Analysis Method 6020A Metals (ICP/MS)

Barium	T	7440-39-3	36	4	0.48	mg/Kg			
Beryllium	T	7440-41-7	10	0.4	0.12	mg/Kg			
Cadmium	T	7440-43-9	120	0.4	0.12	mg/Kg			
Chromium	T	7440-47-3	19	8	0.88	mg/Kg	B		
Cobalt	T	7440-48-4	130	0.4	0.08	mg/Kg			
Copper	T	7440-50-8	9300	4	1	mg/Kg	B		
Gold	T	7440-57-5	4.5	45	4.5	mg/Kg	U	U	
Lead	T	7439-92-1	200	1.6	0.4	mg/Kg		J	F1
Manganese	T	7439-96-5	18000	160	19	mg/Kg	B		
Molybdenum	T	7439-98-7	9.1	8	0.64	mg/Kg			
Nickel	T	7440-02-0	86	8	2.1	mg/Kg			
Selenium	T	7782-49-2	28	4	0.8	mg/Kg			
Silver	T	7440-22-4	1.1	0.8	0.08	mg/Kg			
Thallium	T	7440-28-0	0.4	0.8	0.4	mg/Kg	U	U	
Vanadium	T	7440-62-2	68	4	2.2	mg/Kg			
Zinc	T	7440-66-6	36000	320	160	mg/Kg			

Sample Name BH_WD_081916 **Matrix Type:** Solid

Lab Sample Name: 680-128719-2 **Sample Date:** 8/9/2016 11:20:00 AM

Analyte	Total/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Antimony	T	7440-36-0	7.1	0.95	0.095	mg/Kg		J+	Q,Q1
Arsenic	T	7440-38-2	68	0.28	0.095	mg/Kg			
Barium	T	7440-39-3	85	0.47	0.057	mg/Kg		J+	Q
Beryllium	T	7440-41-7	2.3	0.047	0.014	mg/Kg			
Cadmium	T	7440-43-9	10	0.047	0.014	mg/Kg		J+	Q
Chromium	T	7440-47-3	13	0.95	0.1	mg/Kg	B		
Cobalt	T	7440-48-4	5.1	0.047	0.0095	mg/Kg			
Copper	T	7440-50-8	200	0.47	0.12	mg/Kg	B		
Lead	T	7439-92-1	1900	3.8	0.95	mg/Kg			
Manganese	T	7439-96-5	2100	19	2.3	mg/Kg	B		
Molybdenum	T	7439-98-7	33	0.95	0.076	mg/Kg		J+	Q
Nickel	T	7440-02-0	3.6	0.95	0.25	mg/Kg			
Selenium	T	7782-49-2	3.8	0.47	0.095	mg/Kg			
Silver	T	7440-22-4	7.8	0.095	0.0095	mg/Kg			
Thallium	T	7440-28-0	1	0.095	0.047	mg/Kg			
Vanadium	T	7440-62-2	59	0.47	0.26	mg/Kg		J+	Q
Zinc	T	7440-66-6	2600	38	19	mg/Kg			

Sample Name GST_SLUDGE_080916 **Matrix Type:** Solid

Lab Sample Name: 680-128719-3 **Sample Date:** 8/9/2016 1:30:00 PM

Analyte	Total/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes

Analysis Method 6020A Metals (ICP/MS)

Antimony	T	7440-36-0	3.8	7.5	0.75	mg/Kg	J	J	
Arsenic	T	7440-38-2	140	2.2	0.75	mg/Kg			
Barium	T	7440-39-3	22	3.7	0.45	mg/Kg			
Beryllium	T	7440-41-7	9.5	0.37	0.11	mg/Kg			
Cadmium	T	7440-43-9	120	0.37	0.11	mg/Kg			
Chromium	T	7440-47-3	18	7.5	0.82	mg/Kg	B		
Cobalt	T	7440-48-4	120	0.37	0.075	mg/Kg			
Copper	T	7440-50-8	9100	3.7	0.97	mg/Kg	B		
Gold	T	7440-57-5	3.7	37	3.7	mg/Kg	U	U	
Lead	T	7439-92-1	110	1.5	0.37	mg/Kg		J	F1
Manganese	T	7439-96-5	17000	150	18	mg/Kg	B		
Molybdenum	T	7439-98-7	8.5	7.5	0.6	mg/Kg			
Nickel	T	7440-02-0	83	7.5	1.9	mg/Kg			
Selenium	T	7782-49-2	26	3.7	0.75	mg/Kg			
Silver	T	7440-22-4	0.48	0.75	0.075	mg/Kg	J	J	
Thallium	T	7440-28-0	0.37	0.75	0.37	mg/Kg	U	U	
Vanadium	T	7440-62-2	66	3.7	2	mg/Kg			
Zinc	T	7440-66-6	35000	300	150	mg/Kg			

Analysis Method 6020A Metals (ICP/MS)-TCLP

Sample Name GST_SLUDGE_DUP_080916 **Matrix Type:** Solid

Lab Sample Name: 680-128719-11 **Sample Date:** 8/9/2016 1:30:00 PM

Analyte	Total/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Antimony	T	7440-36-0	0.05	0.05	0.05	mg/L	U	U	
Arsenic	T	7440-38-2	0.03	0.03	0.03	mg/L	U	U	
Barium	T	7440-39-3	0.05	0.05	0.05	mg/L	U	UJ	F1
Beryllium	T	7440-41-7	0.005	0.005	0.005	mg/L	U	U	
Cadmium	T	7440-43-9	0.29	0.005	0.005	mg/L			
Chromium	T	7440-47-3	0.05	0.05	0.05	mg/L	U	U	
Cobalt	T	7440-48-4	0.42	0.005	0.005	mg/L			
Copper	T	7440-50-8	1.3	0.05	0.05	mg/L			
Lead	T	7439-92-1	0.025	0.025	0.025	mg/L	U	U	
Manganese	T	7439-96-5	77	0.05	0.05	mg/L			
Mercury	T	7439-97-6	0.02	0.02	0.02	mg/L	U	U	
Molybdenum	T	7439-98-7	0.05	0.05	0.05	mg/L	U	U	
Nickel	T	7440-02-0	0.17	0.05	0.05	mg/L			
Selenium	T	7782-49-2	0.025	0.025	0.025	mg/L	U	U	
Silver	T	7440-22-4	0.01	0.01	0.01	mg/L	U	U	
Thallium	T	7440-28-0	0.01	0.01	0.01	mg/L	U	UJ	F1
Vanadium	T	7440-62-2	0.1	0.1	0.1	mg/L	U	U	
Zinc	T	7440-66-6	68	20	20	mg/L			

Analysis Method 6020A Metals (ICP/MS)-TCLP

Sample Name GST_SLUDGE_080916 **Matrix Type:** Solid

Lab Sample Name: 680-128719-3 **Sample Date:** 8/9/2016 1:30:00 PM

Analyte	Total/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Antimony	T	7440-36-0	0.05	0.05	0.05	mg/L	U	U	
Arsenic	T	7440-38-2	0.03	0.03	0.03	mg/L	U	U	
Barium	T	7440-39-3	0.054	0.05	0.05	mg/L		J	F1
Beryllium	T	7440-41-7	0.005	0.005	0.005	mg/L	U	U	
Cadmium	T	7440-43-9	0.3	0.005	0.005	mg/L			
Chromium	T	7440-47-3	0.05	0.05	0.05	mg/L	U	U	
Cobalt	T	7440-48-4	0.41	0.005	0.005	mg/L			
Copper	T	7440-50-8	1.5	0.05	0.05	mg/L			
Lead	T	7439-92-1	0.025	0.025	0.025	mg/L	U	U	
Manganese	T	7439-96-5	75	0.05	0.05	mg/L			
Mercury	T	7439-97-6	0.02	0.02	0.02	mg/L	U	U	
Molybdenum	T	7439-98-7	0.05	0.05	0.05	mg/L	U	U	
Nickel	T	7440-02-0	0.17	0.05	0.05	mg/L			
Selenium	T	7782-49-2	0.025	0.025	0.025	mg/L	U	U	
Silver	T	7440-22-4	0.01	0.01	0.01	mg/L	U	U	
Thallium	T	7440-28-0	0.011	0.01	0.01	mg/L		J	F1
Vanadium	T	7440-62-2	0.1	0.1	0.1	mg/L	U	U	
Zinc	T	7440-66-6	71	20	20	mg/L			

Analysis Method 7471A Mercury (CVAA)

Sample Name OXY_WD_080916 **Matrix Type:** Solid

Lab Sample Name: 680-128719-1 **Sample Date:** 8/9/2016 11:00:00 AM

Analyte	Total/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Mercury	T	7439-97-6	0.16	0.019	0.0076	mg/Kg	F1	J+	Q

Sample Name GST_SLUDGE_DUP_080916 **Matrix Type:** Solid

Lab Sample Name: 680-128719-11 **Sample Date:** 8/9/2016 1:30:00 PM

Analyte	Total/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Mercury	T	7439-97-6	0.074	0.18	0.071	mg/Kg	J	J	

Sample Name BH_WD_081916 **Matrix Type:** Solid

Lab Sample Name: 680-128719-2 **Sample Date:** 8/9/2016 11:20:00 AM

Analyte	Total/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Mercury	T	7439-97-6	0.0087	0.022	0.0087	mg/Kg	U	U	

Analysis Method 7471A Mercury (CVAA)

Sample Name GST_SLUDGE_080916 **Matrix Type:** Solid

Lab Sample Name: 680-128719-3 **Sample Date:** 8/9/2016 1:30:00 PM

Analyte	Total/Dissolved	CAS No	Result Value	Reporting Limit	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Mercury	T	7439-97-6	0.069	0.17	0.069	mg/Kg	U	U	